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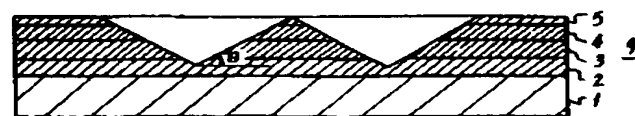
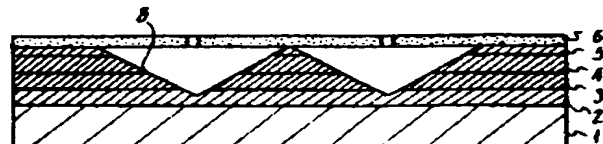
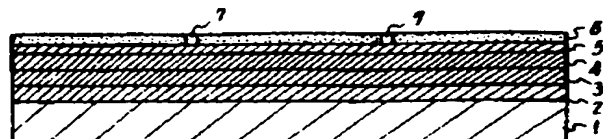
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TITLE : PROCESS FOR PREPARING  
 ORIGINAL PLATE FOR MICROPRISM



ABSTRACT : PURPOSE: To obtain a microprism having a sufficiently small inclination by forming a multilayer film consisting of  $\geq$  two layers having each an etching rate higher than each succeeding lower layer, on a substrate to form pyramidal projections and recessions by etching.

CONSTITUTION: An  $\text{SiO}_2$  film 2 is formed on an Si substrate 1 by the CVD process, the film is heat-treated for a specified time, then a second  $\text{SiO}_2$  film 3 to be etched is formed by the CVD process on the film 2 and heat-treated. Similarly, a third and a fourth  $\text{SiO}_2$  films 4, 5 are formed successively thereon by the CVD process and heat-treated. The heat treatment is performed in such a manner that each  $\text{SiO}_2$  film 2-5 exhibits different etchability for an HF etching liquid, namely, that each lower layer film exhibits smaller etchability than each adjacent upper layer film. Then, a photoresist film as a masking layer 6 is deposited on the film 5; plural square windows 7 arranging longitudinally and laterally are formed thereon by the exposure and development. Finally, recessions 8 are formed by etching.

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